

treated with PIO 30 mg/MF rather than SU/MF, one death was avoided (after 15 years of treatment). PIO was more expensive, but this was in part offset by a reduction in complications. The average undiscounted patient lifetime additional cost of treatment with PIO combinations over their alternatives ranges from 9421 Denmark Kroner (DKK) to a maximum of 74,687DKK. The incremental cost per life year gained of PIO 30 mg/MF relative to SU/MF, and RSG 8 mg/MF is 208,657DKK and 167,060DKK, respectively.

**CONCLUSION:** This model suggests that combined treatments with pioglitazone improve survival and reduce complications in patients with type 2 diabetes and represents a cost-effective use of scarce resources when judged against other therapeutic interventions. It is necessary to confirm the results of this theoretical model once long-term effectiveness data with the compared alternatives are available.

**PDG15**

### THE COST OF TREATING DIABETIC FOOT ULCERS (DFU) WITH APLIGRAF IN THE NETHERLANDS

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**OBJECTIVES:** The treatment of diabetic foot ulcers is extremely costly and such ulcers have potentially profound consequences for the patient. Apligraf, a living human skin equivalent, has been shown in clinical trials to be effective in the management of DFUs resistant to standard care. However, such trials provide little or no information about long-term costs. We attempt to estimate the costs of treatment in the Netherlands with standard care and the cost-effectiveness of Apligraf.

**METHODS:** A Markov chain model was developed to compare the treatment costs of standard care (good wound care) with Apligraf for treatment of diabetic foot ulcers. The states in the model relate to the condition of the ulcer and the amputation status of the patient. Transition probabilities were calculated using data from the Apligraf DFU pivotal study and other published literature. Cost data were drawn from a number of sources in the Netherlands.

**RESULTS:** The monthly cost of treating an uninfected ulcer is 432 Euros, while treating an infected or gangrenous ulcer costs 1963 and 2359 Euros per month, respectively. Amputation costs range from 7582 Euros (toe) to 15,810 Euros (whole foot). For patients receiving good wound care, the annual cost of care is 4775 Euros. The results suggest that costs incurred in using Apligraf are recovered within about a year of initiating treatment. Patients receiving Apligraf experience improved healing rates and fewer amputations. As a result, Apligraf was more cost-effective than good wound care.

**CONCLUSION:** Apligraf promises to be a cost-effective

treatment for patients with DFU resistant to normal care. More rapid healing and reduced number of amputations mean that patients will have a better quality of life. Further studies are needed to examine the long-term costs and effects of Apligraf.

**PDG16**

### BUDGETARY IMPACT OF TREATMENT GUIDELINES—THE EXAMPLE OF TYPE 2 DIABETES

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**OBJECTIVES:** Treatment costs for type 2 diabetic patients in Germany amount to more than 31 billion DM per year, mainly because of related complications. In accordance with the St. Vincent declaration, these complications should be reduced at least by one third by treating according to current guidelines.

**METHODS:** The CODE-2 study results described the actual treatment of diabetic patients and associated costs. This analysis focuses on those 47% of diabetic patients who had no complications, with the aim of preventing long-term complications in these patients. The European Diabetes Policy Group guidelines were applied to define the optimal therapy regarding blood glucose, lipids and blood pressure. Costs of guideline-related medication (antidiabetic, lipid lowering agents and antihypertensive drugs) and costs of additional outpatient treatment were calculated using official tariffs. These results were compared to the cost of current treatment as assessed in CODE-2.

**RESULTS:** Guideline treatment would induce 1270 DM cost per patient for additional medication and outpatient treatment. For office-based physicians who treat nearly 10% of their patients for diabetes, that would mean a budget increase of nearly 90,000 DM per year for each physician. Thus, for all of Germany annually about 2.1 billion DM would have to be invested in diabetes patients who do not have complications.

**CONCLUSIONS:** Treatment of patients with type 2 diabetes according to the guidelines makes a huge investment necessary. Nevertheless, this could be balanced by avoiding long-term complications in the future. Assuming optimal treatment according to guidelines could prevent one third of late diabetes-related complications and by using the published data of the CODE-2 study, potential cost savings of 2.9 billion DM could be achieved, which actually exceeds the cost of prevention.

**PDG17**

### AN ECONOMIC ANALYSIS OF IRBESARTAN IN TYPE II DIABETIC NEPHROPATHY

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